

### AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Claims 1 – 37 (canceled).

Claim 38 (Currently Amended): A system for collision avoidance in formation flight, the system on a lead ~~first~~ aircraft, the system comprising:

- a. data link transponder means for passively receiving broadcast data from a second aircraft, the broadcast data comprising indicia of position of the second aircraft;
- b. navigation means for providing indicia of current position of the lead ~~first~~ aircraft;
- c. means for determining relative aircraft position of the lead ~~first~~ and second aircraft in accordance with the indicia of position of the second aircraft and the indicia of the current position of the lead ~~first~~ aircraft;
- d. means for generating a steering command to maintain separation between the lead ~~first~~ aircraft and the second aircraft in accordance with relative aircraft position of the lead ~~first~~ and second aircraft; and
- e. means for transmitting the steering command to the second aircraft.

Claim 39 (previously presented): The system of claim 38 wherein the transponder means receives the broadcast data via a Mode-S data link.

Claim 40 (previously presented): The system of claim 38 wherein the transponder means receives automatic dependent surveillance broadcast data comprising the broadcast data.

Claim 41 (previously presented): The system of claim 38 wherein the transponder means receives extended squitter comprising the broadcast data.

Claim 42 (previously presented): The system of claim 38 wherein:

- a. the navigation means comprises a global positioning system; and
- b. the navigation means provides the indicia of current position in accordance with an output of the global positioning system.

Claim 43 (previously presented): The system of claim 38 wherein the means for determining relative aircraft position comprises a computer of a traffic alert and collision avoidance system.

Claim 44 (previously presented): The system of claim 43 wherein the traffic alert and collision avoidance system determines relative aircraft position without transmitting traffic interrogations.

Claim 45 (previously presented): The system of claim 38 wherein the broadcast data comprises air traffic control radar beacon system messages.

Claim 46 (previously presented): The system of claim 43 wherein the traffic alert and collision avoidance system determines relative aircraft position while operating in a passive surveillance TCAS mode.

Claim 47 (previously presented): The system of claim 38 wherein:

- a. the means for determining relative aircraft position comprises a computer of a traffic alert and collision avoidance system; and
- b. the means for generating steering commands comprises a mission computer coupled to the computer of the traffic alert and collision avoidance system.

Claim 48 (previously presented): The system of claim 38 wherein the steering command is transmitted in a message comprising an address of a formation cell leader.

Claim 49 (previously presented): The system of claim 38 wherein the steering command is transmitted on a first link to a cell leader for dissemination by the cell leader via a second link that is independent of the first link.

Claim 50 (previously presented): The system of claim 49 wherein the second link comprises a station keeping system digital datalink.

Claim 51 (previously presented): The system of claim 38 wherein:

- a. the system further comprises tracking means for maintaining the relative positions of a plurality of cells;
- b. the means for generating, in response to the tracking means, generates a plurality of steering commands to accomplish maintaining the relative positions of the plurality of cells; and
- c. the means for transmitting transmits the plurality of steering commands by addressing selected steering commands of the plurality of steering commands to a respective cell leader of each cell of the plurality of cells.

Claim 52 (previously presented): The system of claim 51 wherein addressing to a respective cell leader is in accordance with at least one of a Mode-S address and a flight identifier.